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Applying Climate Ethics to Policy: the Case of an EU- China Carbon Border Adjustment Mechanism

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Abstract

Despite the instrumental importance of ethical principles in the value-laden field of climate diplomacy discourse, little research measures the practical implementation of fundamental principles of global redistributive climate justice in policy outcomes. More specifically, Henrik Horn and André Sapir have identified this research need when it comes to the EU's Border Carbon Adjustments (CBAM) entailed by the European Green Deal (EGD). They state that "it is equally important that the measure be perceived as fair in terms of the international distribution of costs and benefits that it entails".¹ This begs the question: Do CBAM respect fundamental principles of global redistributive climate justice? To answer such a question, this paper conducts a case study exploring the socioeconomic consequences of implementing CBAM between the EU and China. By taking a closer look at climate policy practice and its overlap with research outputs from climate ethics, this paper intends to bridge the gap between fundamental ethics, policy discourse, and policy outcomes. I have found that CBAM only secures a weak justification according to Harm-Avoidance Justice: their associated emissions reductions are projected to be only marginal, yet their immediate welfare cost is noticeable. In Burden-Sharing Justice frameworks, CBAM also stands on murky grounds. In the short run, the Polluter Pays Principle would make highly polluting Chinese companies pay through their loss of market shares, but this would be limited to companies who export their products to the EU. Meanwhile, on an international level, it emerges the Chinese community would indirectly be asked to bear the costs for pollution that mostly continues to benefit consumers in the EU. On the Ability to Pay Principle side, China does have the capability to pay for climate action, and CBAM would make them pay. However, CBAM would make China pay disproportionately more than the EU which stands to generate revenue and record welfare gains through CBAM. This transgresses the ATP principle.

Keywords:

Carbon Border Adjustment Mechanism, Climate Justice, Ethics, International Trade.

¹ Henrik Horn and André Sapir. "Can Border Carbon Taxes Fit into the Global Trade Regime?". *Bruegel Policy Brief 06*, (2013): 7.

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List of abbreviations

ATP: Ability to Pay Principle

BCA: Border Carbon Adjustments

BCT: Border Carbon Taxes

CBAM: Carbon Border Adjustment Mechanisms

CBDR: Common But Differentiated Responsibility

EC: European Commission

EU: European Union

MFN: Most-Favoured Nation

OECD: Organisation for Economic Cooperation and Development

PPP: Polluter Pays Principle

RCP: Representative Concentration Pathway

WTO: World Trade Organisation

List of interviewees

Given the level the interviewees worked at, most asked to be anonymised. Moreover, anonymising all interviews minimised the risk of performance bias. The handling of the information was done in compliance with the General Data Protection Regulation. Each interviewee was informed of their right to pull out of the study or retract their answers at any stage during the study. Participants were sourced both from academia and policymaking circles according to relevant expertise. The academics involved were chosen based on either local political involvement or a close connection to relevant policy circles. Open questions were asked to avoid receiving guided answers.

1. Senior Climate Advisor to the European Commission.
2. Senior United Kingdom (UK) Civil Servant, and Climate Advisor
3. Commentator, Advisor, and Analyst on EU-China Affairs
4. Environmental NGO Policy Officer, leading the NGO's response to the EC's Public Consultation on CBAM
5. Environmental NGO Policy Officer, expert in Just Transition and the EU ETS
6. Associate Professor of Law specialised in Mechanisms of Transnational Cooperation and Dispute Resolution (China based)
7. Environmental NGO Policy Officer
8. Professor in Anthropology specialised in Globalisation, and Climate Change, Panellist in a European Climate Pact discussion

1. Introduction

Carbon Border Adjustment Mechanism (CBAM) has taken up a significant amount of breath and political discourse in international policy circles and decision-making fora since 2008.² Recently, this has been heightened by the publication of the “Fit for 55” policy package by the European Commission (EC) as part of the European Green Deal (EGD) which sets forward the ambitious goal of reaching climate neutrality by 2050³. Indeed, the policy package includes the first concrete European iteration of a CBAM.⁴ Climate change is a pressing global issue which calls for immediate concerted political action on a global level. The European Union (EU) has clearly acknowledged this, and its response is the EGD, a green growth strategy spanning the upcoming decades. The EGD imbricates itself in a complex institutional climate diplomacy architecture, with the Paris Agreement at its masthead.

CBAM has proved controversial in many respects. Not least because they have a bearing both on economic and trade policy, and on climate and energy policy. The EGD inscribes itself in the stated aim to enact a Just Transition, whereby people are equipped “to address the social, and economic [...] impacts of the transition towards a climate neutral economy”.⁵ This involves caring for social inclusivity and the general well-being of the least well-off. However, this transition can only be “Just” on an international level if EU emissions are not simply exported to other countries. The EU cannot ask its producers to internalise a high carbon cost that other international producers do not face, because of the risk of putting EU producers at a clear competitive disadvantage. This entails addressing the issue of carbon leakage head-on. That is why, although deemed politically unfeasible by many (like Nick Butler⁶, or Zachmann and McWilliams⁷), CBAM is being pushed for by the EU.

Despite the instrumental importance of ethical principles in the very value-laden field of climate diplomacy discourse, little research measures the practical implementation of fundamental principles of global distributive climate justice in policy outcomes. More specifically, Henrik Horn and André Sapir identified this research need when the conversation around CBAM had gained traction at the EU level. At the time this came under different names ranging from Border Carbon Adjustments (BCA) to Border Carbon Taxes (BCT). Horn and Sapir state that “it is equally important that the measure be perceived as fair in terms of the international distribution of costs and benefits that it entails.”⁸ In very simple terms, global distributive justice concerns itself with the economic inequalities

² Aaron Cosbey. “Border Carbon Adjustment”, *June 18–20, Copenhagen, Denmark, Seminar Publication*. (Winnipeg: International Institute for Sustainable Development Trade and Climate Change, 2008).

³ European Commission. “Communication: The European Green Deal”. Brussels, 2019. https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf (accessed 07/02/21).

⁴ European Commission, “Proposal establishing a carbon border adjustment mechanism”, Brussels 2021. <https://eur-lex.europa.eu/legalcontent/en/TXT/?uri=CELEX:52021PC0564> (accessed 07/02/21).

⁵ European Commission, “Proposal for a Regulation Establishing the Just Transition Fund,” 14 January 2020, Article 2. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0022> (accessed 22/04/21)

⁶ Nick Butler. “‘A climate-neutral continent’ beyond the EU – A conversation with Ukraine, Turkey and Russia”. Centre for European Policy Studies, Lecture. 2021.

⁷ G. Zachmann, and B. McWilliams, “A European carbon border tax: much pain, little gain”, Bruegel Policy Contribution 05, (2020).

⁸ Horn and Sapir. “Can Border Carbon Taxes Fit into the Global Trade Regime?”, 7.

between individuals at an international level⁹. Global distributive climate justice focuses on how climate change, and by extension climate policy, reshuffles the world's resources for better or for worse, and asks who should bear the costs. The purpose here is to evaluate the distributive impacts of climate change according to axiomatic moral principles most comprehensively defined by Simon Caney¹⁰.

Key to this is the implementation of CBAM with China. In 2019, China was responsible for the highest incremental annual increase of CO₂ emissions in absolute terms,¹¹ and its emissions were equivalent to 28% of global emissions¹², which makes it a high-stakes player in efforts at carbon emission reductions. On top of this, China is the biggest net exporter of goods in the world.¹³ Additionally, China is the EU's main trade partner. In 2020, exports from China to the EU amounted to EUR 383.5 billion, accounting for approximately 15.1% of China's total exports and 22.4% of the EU's total imports¹⁴. As such, as pointed out by Aaron Cosbey¹⁵, CBAM is widely understood to target China.¹⁶ The EU will need to pull its diplomatic weight when it comes to the implementation of CBAM with China to ensure that they do not, in the end, antagonize China, and jeopardize otherwise mutually beneficial climate negotiations.¹⁷

Initially, it had been calculated that CBAM could cost China 4% of its GDP.¹⁸ When it comes to the EC's initial CBAM proposal which does not include indirect emissions and has a relatively narrow sectoral scope, the effects would be milder but not insignificant. Moreover, if the initial legislation is successfully implemented it seems likely that its sectoral scope and emission coverage will increase¹⁹.

⁹ Michael Blake and Patrick Taylor Smith, "International Distributive Justice". The Stanford Encyclopedia of Philosophy, Summer 2022. <https://plato.stanford.edu/entries/international-justice/> (accessed 04/06/2022)

¹⁰ Simon Caney, "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". *Special Issue: Philosophy, Politics & Society* 22, 2(2014): 125-149.

¹¹ Hannah Ritchie, and Max Roser, "China: CO₂ Country Profile", in *Our World in Data* by Global Data Lab, (Oxford: University of Oxford, Oxford Martin School 2022). https://ourworldindata.org/co2/country/china?country=CHN~USA~OWID_WRL~RUS (accessed 07/05/22)

¹² Uta Steinwehr, "Fact check: Is China the main climate change culprit?", *Deutsche Welle*, 2021. <https://www.dw.com/en/fact-check-is-china-the-main-climate-change-culprit/a-57777113>. (accessed 07/05/22)

¹³ The World Bank. "Exports of Goods and Services (Current US\$)." https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?most_recent_value_desc=true (accessed 04/06/2022)

¹⁴ Eurostat, "China-EU - international trade in goods statistics". (Luxembourg: Eurostat 2021). https://ec.europa.eu/eurostat/statistics-explained/index.php?title=ChinaEU_-_international_trade_in_goods_statistics#EU-China_trade_by_type_of_goods (accessed 04/06/2022)

¹⁵ Andrei Marcu, Michael Mehling and Aaron Cosbey. "Border Carbon Adjustments in the EU: Sectoral Deep Dive". European Roundtable on Climate Change and Sustainable Transition. (Brussels: ERCST, 2021), 18.

¹⁶ Cosbey, "Border Carbon Adjustment", 2.

¹⁷ Cosbey, "Border Carbon Adjustment", 6.

¹⁸ Stavros Afonis, et al. "Consumption-based carbon accounting: does it have a future?", *WIREs Clim Change* 8, (2017)438, 12.

¹⁹ Sanna Markkanen, et al. "On the Borderline: the EU CBAM and its place in the world of trade". (Cambridge, UK: Cambridge Institute for Sustainability Leadership, University of Cambridge. 2021), 20.

This explains China's vehement rejection of CBAM and threats of retaliation in the form of trade sanctions in 2019,²⁰ and more recently, Chinese ministers' articulation of grave concerns and depiction of the measure as a unilateral trade barrier at the 30th BASIC Ministerial Meeting on Climate Change in April 2021.²¹ This begs the question: Does CBAM respect fundamental principles of global distributive climate justice?

To answer this question, I will complete a case study exploring the socioeconomic consequences of implementing CBAM between the EU and China. By taking a closer look at the overlap between notions of Just Transition and research outputs from climate ethics, this paper intends to connect fundamental ethics, policy discourse, and policy outcomes. The overarching goal of this paper is to bridge the increasingly disconnected field of political philosophy (more specifically what moral philosophy has to say on climate ethics), with policy practice. The first section discusses quantitative studies and provides the empirical context of implementing CBAM with China. The second section seeks an ethical justification for CBAM according to Harm-Avoidance Justice frameworks. The third does this according to Burden-Sharing Justice frameworks, notably by referring to the Polluter Pays Principle (PPP), and the Ability to Pay Principle (ATP). The conclusion explores the need for ethical justifications in climate diplomacy.

CBAM are a complex object of study because of their ethical, political, and economic dimensions. Therefore, research into the ethical implications of deploying CBAM should strive towards integrating perspectives from different policy areas. As such, the methodology deployed in this paper is hybrid in nature. This is achieved in two respects. First, interviews with practitioners and policymakers from these different fields enabled an analysis of the role and socio-political significance of principles of climate ethics and burden-sharing justice within policy and public discourses on CBAM. Second, the moral philosophy aspect of my work draws on the Rawlsian methodology of reflective equilibrium.²² This paper mutually adjusts the particular judgments and general principles that surround the discussion of the ethical implications of CBAM with China in political, legal, and economic disciplines.

2. CBAM and the case of China

2.1 Defining CBAM in Practice

To avoid confusion this paper uses the term Carbon Border Adjustment Mechanism (CBAM) to refer to carbon border adjustments in a general sense as policy measures that can be structured and implemented in various ways. A distinction is drawn between this general conceptualisation and a more specific term EU Carbon Border Adjustment Mechanism (EU CBAM), which is used to refer to the actual mechanism that would be

²⁰ Carbon Pulse, 'China lashes out at EU carbon border adjustment initiative ahead of climate talks', 27 November (2019), <https://carbon-pulse.com/87558/> (accessed 02/06/2022).

²¹ Christopher Kardish et.al. "The EU carbon border adjustment mechanism (CBAM) and China: Unpacking options on policy design, potential responses, and possible impacts". (Berlin: Adelphi, 2021), 16. https://www.adelphi.de/en/system/files/mediathek/bilder/20210610%20PolicyPaperCBAM%20China_Final.pdf (accessed 02/06/2022).

²² Carl Knight. "The Method of Reflective Equilibrium: Wide, Radical, Fallible, Plausible". *Philosophical Papers* 35, 2(2006):205-229.

implemented based on the current EU proposal. The latter does not limit itself to the proposal fixed by the Commission but also considers changes that are likely to emerge from interinstitutional negotiations to provide a more comprehensive view.

CBAM is succinctly defined as the “carbon pricing of imports”.²³ Importers either must pay an import tax or purchase certificates in an amount proportional to the embedded carbon of the goods being imported.^{24,25} Broadly speaking, CBAM can be considered as an equalisation measure to ensure similar carbon pricing is internalised in domestic and imported goods for the covered sectors²⁶.

In the case of the EU CBAM, the Commission’s proposal indicates it will begin by covering the direct emissions of the following sectors: cement, iron and steel, aluminium, fertilisers, and electricity. However, the ENVI committee in the European Parliament adopted a report on 17 May 2022 advocating for the inclusion of hydrogen, organic chemicals and polymers, and more significantly the coverage of indirect emissions²⁷. At the time of writing, this points towards a clear political will to broaden both the sectoral and emission scope of the EU CBAM, therefore increasing the potential adverse effects on the EU’s trade partners.

In its current formulation, the EU CBAM would work in conjunction with the Emission’s Trading System, in the sense that importers would be required to purchase certificates covering the embedded emissions in the concerned goods, and that the price of these certificates would be equivalent to the price of weekly average prices of ETS allowances sold at auction. To avoid a double subsidy to European producers of equivalent goods, free allowances would be phased out. Lastly, consideration for the carbon price paid in producers’ home jurisdiction will be taken into account, with the possibility to be exempt from the purchase of CBAM certificates if a domestic emission trading scheme has been linked up to the EU ETS.²⁸

2.2 The Predicted Impact of CBAM on the Chinese Economy

To begin, it is important to understand the impact of CBAM on China’s economy. A case study of the ethical and normative justification for CBAM with China can be justified through three simple facts. The first is that China is the most important emitter in the world with

²³ Cecilia Bellora and Lionel Fontagné, “Possible carbon adjustment policies: An overview”, International Trade Committee, European Parliament (Brussels: European Union, 2020, April), 6.
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/603500/EXPO_BRI\(2020\)603500_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/603500/EXPO_BRI(2020)603500_EN.pdf) (accessed 02/05/2022)

²⁴ European Commission. Proposal for a regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism. COM/2021/564 final. (Brussels: European Union, 2021, July).
<https://eur-lex.europa.eu/legalcontent/en/TXT/?uri=CELEX:52021PC0564> (accessed 03/05/2022)

²⁵ Cecilia Bellora and Lionel Fontagné, “Possible carbon adjustment policies: An overview”, 6.

²⁶ Markkanen, et al. “On the Borderline: the EU CBAM and its place in the world of trade.”, 10.

²⁷ European Parliament, “Report of the Committee on the Environment, Public Health and Food Safety (A9-0160/2022)”, (Brussels: European Union, 2022, May), Amendment 27, Proposal for a regulation, Recital 346.
https://www.europarl.europa.eu/doceo/document/TA-9-2022-0248_EN.html (accessed 23/06/2022)

²⁸ Markkanen, et al. “On the Borderline: the EU CBAM and its place in the world of trade.”, 21.

11,68 giga tonnes of carbon dioxide emissions in 2020.²⁹ China is also responsible for high incremental increases in global emissions.³⁰ In 2017 China was notably responsible for 28% of fuel combustion emissions, in 2018 China recorded the highest increase of these emissions.³¹ This makes China the key player in enacting successful global climate action. The second is that China has a carbon intense and open economy. China is the largest primary energy consumer on the planet and despite relative gradual decreases, still overly relies on coal in its energy mix (57% in 2020).³² Its economy has also become more reliant on trade, with a ratio of trade to GDP increasing from 24% in 1990 to 37% in 2018.³³ This also means that the adverse effects of CBAM would most strongly be felt in China. Early studies using Computational General Equilibrium modelling calculated that a CBAM with a wide scope could cost China 4% of its GDP.³⁴ According to one such quantitative study, the associated welfare losses would also be highest in China.³⁵ Here, welfare losses are estimated using the ratio of Hicksian equivalent valuation in GDP terms.³⁶

More recent literature using Input-Output modelling specific to the cost of an EU-CBAM offer lower estimates due to the restricted scope of the original proposal from the Commission³⁷. It is important to note that the EU-CBAM has the vocation of widening its sectoral and emission coverage scope after a successful initial phase.

Due to this China is deeply antagonistic to CBAM. This brings me to the third fact. As China is the EU's largest trading partner in goods and resources, this antagonism will be felt in Sino-EU trade relations. These three facts make the case study of the impact of CBAM in China a priority on the emerging research agenda that aims to evaluate the global distributive justice implications of exporting the EGD.

²⁹ Monica Crippa et.al. “GHG emissions of all world countries, EUR 30831 EN”, (Luxembourg: Publications Office of the European Union, 2021), DOI: 10.2760/173513.

³⁰ Hannah Ritchie and Max Roser, “CO2 Emissions”, in *Our World in Data by Global Data Lab*, (Oxford: University of Oxford, Oxford Martin School 2022). <https://ourworldindata.org/co2-emissions> (accessed 06/06/22).

³¹International Energy Agency. “IEA Atlas of Energy: CO2 Emissions from Fuel Combustion”. (Paris: IEA, 2022). <http://energyatlas.iea.org/#!/tellmap/1378539487> (accessed 05/06/2021)

³² British Petroleum. “Statistical Review of World Energy: China’s energy market in 2020”. (London: BP 2020). <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-china-insights.pdf> (accessed 02/06/2022).

³³ Macrotrends, “China Trade to GDP Ratio 1960-2022”. (Washington: World Bank. 2022). <https://www.macrotrends.net/countries/CHN/china/trade-gdp-ratio#:~:text=China%20trade%20to%20gdp%20ratio%20for%202020%20was%2034.51%25%2C%20a,a%200.74%25%20increase%20from%202016>. (accessed 05/06/2021)

³⁴ Afionis, et.al. “Consumption-based carbon accounting: does it have a future?”, 12.

³⁵ Aijun Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, *Energy Policy* 63 (2013): 931.

³⁶ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 931.

³⁷ Kardish et.al. “The EU carbon border adjustment mechanism (CBAM) and China: Unpacking options on policy design, potential responses, and possible impacts”, 18.

On average, 40% of Chinese GDP derives from industry.³⁸ Industrial goods are energy intensive, and in China, this means carbon intensive due to an overreliance on coal. In terms of trade, China accounts for significant proportions of the EU's imports in carbon intensive goods, most significantly 8% for ferrous metals (crude steel), 9% for non-ferrous metals (primarily aluminium)³⁹, and 6,7% for chemicals, the first two being included in the initial proposal. There is also a certain dependency from China vis à vis the EU market for covered goods, with the EU being China's third top importer of cement clinkers and the fifth top importer of fertilizers⁴⁰.

This means that even if the EU stands alone on CBAM, their application between the EU and China would still have significant socioeconomic consequences. The impact of CBAM will be especially high for sectors that are export-oriented and carbon intensive, which is why industry immediately comes to the fore.⁴¹ Because of their differentiated impact CBAM risk significantly internally restructuring and reshuffling the Chinese economy. Although the direct impact of export losses might be strongest in coastal areas more open to international trade, because landlocked provinces usually serve as upstream suppliers to coastal regions, a negative demand shock could create non-negligible income losses for these provinces who would therefore suffer in the added value of their industrial production⁴². Existing interregional inequalities, notably in the burden of national carbon prices, mean that these losses could be felt more strongly in welfare terms⁴³. Indeed, in recent years, China has promised environmental leniency to firms willing to relocate to inland poorer rural areas in order to attract foreign direct investment but also to decentralise the distribution of wealth.⁴⁴ With CBAM, the development benefits and employment obtained by the relocation of polluting companies would need to be foregone in favour of different strategies to boost the economic attractiveness of poorer rural areas.⁴⁵ Regardless, on a granular scale, the job losses of the economic sectors that are hurt will mostly concern the least well-off in Chinese society.

³⁸ C. Textor, "Distribution of the gross domestic product (GDP) across economic sectors in China from 2011 to 2021", 2021. <https://www.statista.com/statistics/270325/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-china/> (accessed 23/03/21).

³⁹ Marcu et.al. "Border Carbon Adjustments in the EU: Sectoral Deep Dive", 18, 29, 33, 41.

⁴⁰ World Integrated Trade Solution, "Fertilizers, mineral or chemical; potassic, potassium chloride imports from China in 2019". Washington: World Bank. 2020. <https://wits.worldbank.org/trade/comtrade/en/country/All/year/2019/tradeflow/Imports/partner/CHN/product/310420> (accessed 05/06/2021)

⁴¹ Jiarui Zhong & Jiansuo Pei, "Beggars thy neighbor? On the competitiveness and welfare impacts of the EU's proposed carbon border adjustment mechanism", *Energy Policy*, 162 (2022), Article 112802, 1-18.

⁴² Zhong and Pei, "Beggars thy neighbor? On the competitiveness and welfare impacts of the EU's proposed carbon border adjustment mechanism", 9.

⁴³ Zhong and Pei, "Beggars thy neighbor? On the competitiveness and welfare impacts of the EU's proposed carbon border adjustment mechanism", 10-11.

⁴⁴ Lee Liu "A critical examination of the consumption based accounting approach: has the blaming of consumers gone too far?". *WIREs Clim Change* 6, (2015): 5.

⁴⁵ Liu "A critical examination of the consumption based accounting approach: has the blaming of consumers gone too far?", 5.

2.3 Climate Action and Diplomatic Considerations

Without an ethical and normative justification for the implementation of CBAM, the EU might find themselves in a diplomatic impasse: accused of pushing their own economic interests regardless of the common good. This is especially true when considering the EU is calculated to increase its output thanks to CBAM, while simultaneously causing marginal reductions in outputs in the rest of the world⁴⁶.

This would be an untenable position for an actor who seeks to maintain the image of a “force for good”⁴⁷, and the EU has an interest and duty to keep China at the negotiating table insofar as this is beneficial to climate action. Therefore, contra Helm et.al.,⁴⁸ instead of being a game changer that spurs climate negotiations onward, CBAM could harm these negotiation efforts and induce diplomatic retaliation that would be counterproductive to the success of international climate action efforts.⁴⁹ Recent studies indicate that the EU CBAM effectively shifts the environmental burden from the EU to non-EU countries⁵⁰. One criticism levelled at the EU by several respondents was its lack of consultations with trade partners to jointly design CBAM.⁵¹ Given China’s national ETS made a debut on 16 July 2021, there is hope that diplomatic concordance will still be possible thanks to the exemptions and reductions clause of the EU-CBAM designed to account for domestic carbon prices.⁵² However, opposition to the measure thus far suggests the EU must tread carefully.

China’s vehement criticism of CBAM made the headlines in 2019 when they “lash[ed] out at EU [...] ahead of climate talks”.⁵³ EU-China relations specialists have stressed that diplomatic feasibility entails CBAM design must be “scientific” and bar the possibility of protectionist abuses.⁵⁴ The minister Zhao Yingmin asserted CBAM would hurt international climate action endeavours and embodied “climate protectionism”, which was also reiterated in the April 2021 BASIC ministerial meeting.⁵⁵ What is more, this criticism was couched in ethical justifications, notably, an implicit reference to the Polluter Pays Principle (PPP) and Ability To Pay Principle (ATP).⁵⁶ Reference to the climate justice principles

⁴⁶ Zhong and Pei, “Beggar thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 6.

⁴⁷ Lisbeth Aggestam. “Ethical Power Europe”. *International Affairs* 84, 1(2008): 1.

⁴⁸ Dieter Helm, et.al. “Trade, climate change, and the political game theory of border carbon adjustments”, *Oxford Review of Economic Policy* 28, no. 2 (2012): 390.

⁴⁹ Cosbey, “Border Carbon Adjustment”, 6.

⁵⁰ Zhong and Pei, “Beggar thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 1.

⁵¹ Interview 3. Commentator, Advisor, and Analyst on EU-China Affairs.

⁵² International Institute for Sustainable Development. “Trading Begins under China’s National ETS” 2021. <https://sdg.iisd.org/news/trading-begins-under-chinas-national-ets/> (accessed 05/06/2021)

⁵³ Carbon Pulse, ‘China lashes out at EU carbon border adjustment initiative ahead of climate talks’, 27 November (2019), <https://carbon-pulse.com/87558/> (accessed 11 Jun. 2020).

⁵⁴ Interview 3. Commentator, Advisor, and Analyst on EU-China Affairs.

⁵⁵ Cate Cadell ‘China says CO2 border tax will damage global climate change fight’, Reuters, 2019, 27 November, <https://www.reuters.com/article/us-climate-change-accord-china/china-says-co2-border-taxwill-damage-global-climate-change-fight-idUSKBN1Y105T> (accessed 12/02/21).

⁵⁶ Cate Cadell ‘China says CO2 border tax will damage global climate change fight’, Reuters.

enshrined in the Paris agreement was used discursively to defend China against the implementation of CBAM. This overlapped with Xie Zhenhua Special Advisor for Climate Change Affairs (MEE) of China's appearance at the European Business Summit 2020 who spoke of the legacy issues of article 6 of the Paris Agreement in relation to carbon markets.⁵⁷ This calls for an evaluation of this ethical defence in both economic and legal terms.

2.4 Relevant Criteria for Ethical Judgement

The two paradigms from a moral and political philosophy that were used were Harm-Avoidance Justice and Burden-Sharing Justice.⁵⁸ While harm-avoidance justice focuses on the rights of future generations and distributing duties to effectively prevent avoidable harm, Burden-Sharing Justice seeks the most equitable way of distributing duties so that each party bears a fair portion of the costs.⁵⁹ The two principles that emerge from Burden-Sharing Justice are the well-known PPP and the ATP.⁶⁰ The first simply requires those responsible for the problem to pay.⁶¹ The second requires those with more capability to pitch in more.⁶² By and large, both principles overlap, with those having polluted benefitting and therefore having a proportionally higher capability to pay for climate-related harm.⁶³

3. CBAM and Harm-Avoidance Justice

3.1 Climate Policy effectiveness as Harm-Avoidance

Having established the principles and their relevant application to the EU-China case, it is time to turn to the evaluation of CBAM with China against the set ethical criteria. In the field of climate ethics, there are two main constituent paradigms. One of these is Harm-Avoidance Justice which:

*"takes as its starting point the imperative to prevent climate change, and [...] works back from this to deduce who should do what. Its focus is primarily on ensuring that the catastrophe is averted (or at least minimised within reason). This perspective is concerned with the potential victims—those whose entitlements are threatened—and it ascribes responsibilities to others to uphold these entitlements."*⁶⁴

This self-explanatory definition can be complemented and analysed by stating that Harm-Avoidance justice benefits from a forward-looking perspective.⁶⁵ It indexes principles of

⁵⁷ Shada Islam, European Business Summit 2020. <https://www.shadaislam.com> (accessed 13/04/21).

⁵⁸ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

⁵⁹ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 126.

⁶⁰ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 126.

⁶¹ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 126.

⁶² Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 126.

⁶³ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 126.

⁶⁴ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

⁶⁵ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

justice on their ability to fulfil the ethical obligation of preventing avoidable harm. In this sense it prioritises efficiency. This can be contrasted to Burden-Sharing Justice which will be the subject of the next section. Harm-Avoidance Justice has a legal standing in the overarching 2°C target enshrined in article 2 of the Paris Agreement.⁶⁶

Two worlds can be imagined. The first is a world without the implementation of CBAM with China (A), and the second is a world with the implementation of CBAM with China (B). If B has higher carbon emissions than A, this means the policy of CBAM fails to mitigate emissions. Given the severity of climate change and the long-term damage measured in terms of human well-being, it is expected to create, if B is a world with higher emissions than A, then the policy fails to meet the imperative of harm-avoidance justice. Note that the emphasis should not be on CBAM's capacity to reduce carbon leakage, but on its capacity to reduce global emissions. Carbon leakage should only matter insofar as it prevents effective climate change mitigation. As we will see with the phenomena of "consumption leakage" and substitution, reducing production-based carbon leakage does not mean carbon efficiency, and is too often conflated in the literature. As such, my subsequent discussion of CBAM is premised on their specific design, actively participating in creating a carbon-efficient world.⁶⁷

However, this must be complemented with economic considerations given they also have a bearing on global well-being. If climate action creates rampant poverty (and therefore harm), it is hard to justify it through reference to a criterion of harm-avoidance justice. The prime motivation for mitigating climate change for decision-makers is usually to prevent long-term harm to human populations⁶⁸. In this sense, if the immediate effects of climate policies are expected to be worse than the predicted effect of climate change, they *de facto* have no *raison d'être* or ethical justification. Measuring whether CBAM are ethically justified by relying on Harm-Avoidance Justice, therefore, implies analysing two empirical realities: the policy effectiveness of CBAM in reducing emissions and the level of the welfare losses created by CBAM measured against scenarios of climate catastrophe. For the second one, if welfare losses are minor compared to those expected with 2°C global warming, the policy still stands a chance of finding an ethical justification.

3.2 Emission Reductions

Justifying CBAM through the argument of carbon leakage often limits itself to an understanding of it being strongly driven by climate policies; direct (through relocation of carbon-intensive production); and positive (increasing emissions in other countries)⁶⁹. However, a study conducted by the Cambridge Institute for Sustainability Leadership in close collaboration with Cambridge Econometrics found that there was an insufficient body

⁶⁶ Paris agreement: Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

⁶⁷ Horn and Sapir. "Can Border Carbon Taxes Fit into the Global Trade Regime?", 4.

⁶⁸ Interview 1. Senior Climate Advisor to the EC.; Interview 2. Senior United Kingdom (UK) Civil Servant, and Climate Advisor. ; Interview 3. Commentator, Advisor, and Analyst on EU-China Affairs.

⁶⁹ Markkanen, et al. "On the Borderline: the EU CBAM and its place in the world of trade.", 14.

of literature to assert with confidence that carbon leakage of this type had occurred thus far on a significant scale.

Instead, it is possible that negative carbon leakage occurred through technology transfers (meaning a reduction in overall emissions), which is a phenomenon that goes, for the most part, unquantified⁷⁰. Additionally, the EU CBAM proposal does not consider perverse supply chain effects in the EU, whereby a narrow sectoral scope could mean finished goods with a high carbon footprint (not covered in the proposal) are imported instead of the primary materials (covered by the proposal) being used for local manufacturing. This could happen if the price of importing manufactured goods using cheaper carbon-intensive material outside the EU becomes much cheaper than using domestic but cleaner (and CBAM vetted) imports for domestic production of manufactured goods. From the reference framework of other countries, the perverse supply chain effects of the application of CBAM can cause positive indirect carbon leakage. One such example is that it has been found that the loss of export-based income for China and the impact on its balance of payments could require countervailing measures that reduce imports in favour of domestic substitutes.⁷¹ These domestic substitutes could have a higher carbon intensity. In the literature, this is also referred to as “consumption-based leakage”, or “reverse carbon leakage”.⁷² The existence of such phenomena reduces the predicted effectiveness of CBAM in mitigating emissions, and therefore in realising a harm-avoidance justification of CBAM. There is a consensus in the modelling literature that CBAM will at best achieve modest emission reductions, with both IO, E3ME, and CGE models replicating findings^{73;74;75;76}. A recent example of the first set of global emission reduction rates is between 0.10% to 1.51%⁷⁷, while a recent example of the second sets this global carbon emission reduction at 0.023%⁷⁸. Older quantitative studies using CGE modelling find that emission reductions in the countries targeted by CBAM would to some extent be compensated by emission increases in the Organisation for Economic Cooperation and Development (OECD) countries implementing them⁷⁹. This stems from the competitiveness gains made by OECD countries, which would increase OECD countries’ outputs.⁸⁰ The study finds that the increase in emissions in OECD

⁷⁰ Kathy Baylis et.al. “Negative Leakage”. *Journal of the Association of Environmental and Resource Economists* 1, no. 1 (2014): 51.

⁷¹ Liu “A critical examination of the consumption-based accounting approach: has the blaming of consumers gone too far?”. 5.

⁷² Horn and Sapir. “Can Border Carbon Taxes Fit into the Global Trade Regime?”, 5.

⁷³ Markkanen, et al. “On the Borderline: the EU CBAM and its place in the world of trade.”, 23-36.

⁷⁴ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 927.

⁷⁵ Qin Bao, et.al. “Impacts of border carbon adjustments on China’s sectoral emissions”, *China Economic Review* 24, (2013): 77.

⁷⁶ Zhong and Pei, “Beggars thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 1.

⁷⁷ Zhong and Pei, “Beggars thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 5.

⁷⁸ Markkanen, et al. “On the Borderline: the EU CBAM and its place in the world of trade.”, 27.

⁷⁹ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 931.

⁸⁰ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 931.

countries would not be higher than the emission decrease in the countries targeted by CBAM.⁸¹ Therefore, overall CBAM would still result in emission reductions.⁸² Of course, these estimations are liable to change with the final policy design of a given CBAM, specifically its emission coverage.

3.3 Welfare Implications

This needs to also be put into perspective with the associated short and mid-term welfare costs of CBAM. The 2022 IO study by Jiarui Zhong and Jiansuo Pei on the EU CBAM found that the burden would fall more heavily on developing countries, notably China, India, Russia, and Turkey. This is comparable to findings from previous CGE studies, notably those focusing on a CBAM implemented by OECD countries, which found that out of Brazil, India, and China, China would suffer the most. The study unveiled a forecasted 2,62% welfare loss calculated for a 4% loss in GDP^{83;84}, estimated using the ratio of Hicksian equivalent valuation in GDP terms⁸⁵, while OECD countries would see a positive increase in welfare.⁸⁶ In one scenario, the 2022 IO study finds that output in the rest of the world would decrease by 0,1%, while EU output would increase by 0.38%⁸⁷. The 2021 E3ME model with the assumption of a narrow sectoral scope estimates that any output loss in other countries would cause GDP reductions that are well below 1%, therefore revising previous findings downwards⁸⁸. However, even with the carbon price officially operational in the national Chinese carbon market in 2021 leading to reductions or exemptions in the purchase of EU-CBAM certificates, the impact would remain significant with a possible export loss of \$US12,621M, whose negative welfare impacts are predicted to fall more heavily on poorer landlocked provinces.⁸⁹

Again, in the mid-term, these trends are likely to deepen if a fuller sectoral and emission scope is pursued. An example of a model that includes a broader sectoral coverage of 14

⁸¹ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 931.

⁸² Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 932.

⁸³ Afionis, et.al. “Consumption-based carbon accounting: does it have a future?”, 12.

⁸⁴ Christoph Böhringer, et.al. “Embodied carbon tariffs”. *National Bureau of Economic Research Working Paper* (2021): 2.

⁸⁵ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 931.

⁸⁶ Li, “How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?”, 931.

⁸⁷ Zhong and Pei, “Beggars thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 1.

⁸⁸ Markkanen, et al. “On the Borderline: the EU CBAM and its place in the world of trade.”, 27.

⁸⁹ Zhong and Pei, “Beggars thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 8.

sectors, including complex finished products, estimated that China could lose 6.8% to 11.6% of its export value, depending on the scale of the emissions.⁹⁰

3.4 Assessing Trade-offs

To compare and contrast the short and mid-term welfare costs of CBAM versus the long-term benefits of the marginal decrease in emissions they bring about, would require fuller datasets that unfortunately do not exist at the moment. This assessment would also change according to the ethical theoretical framework used to weigh policy outcomes. For instance, if we view the problem through a prioritarian lens, the impact of CBAM on the least well-off would be given greater weight.⁹¹ Through a sufficientarian lens, if some individuals are left without a bare minimum because of CBAM, it would be hard to find an ethical justification for them.⁹² An example of a neighbouring, and more applied conception of sufficientarianism takes shape in the form of the Green-House Development Rights, which take into account the distribution of income within countries to give each individual with a minimal income the right to develop and be exempt from the costs of climate policies.⁹³

Levels of analysis are key at this stage of applied ethical inquiry. If we look at the nation-state level, then China, as the second largest economy in nominal GDP, certainly has the capacity to bear the burden of CBAM and will not fall below the poverty line because of them. A CBAM with the restricted sectoral and emission scope suggested in the Commission proposal would barely make a dent in this respect⁹⁴. At an intra-state and domestic level, however, if the impact of CBAM is more strongly distributed among the lower classes of the population, then this makes it harder to find an ethical justification for them in prioritarian or sufficientarian frameworks of harm-avoidance justice. As outlined previously, the impact of CBAM is likely to exacerbate existing centre-periphery dynamics and deepen regional inequalities in China⁹⁵. Moreover, the international level also points in this direction. CBAM risks opening the door to protectionist back-sliding. It has often been associated with “green-protectionism” or “eco-imperialism”. A recent survey found that a majority of Asia-Pacific policymakers perceive CBAM as protectionist and discriminatory against developing countries.⁹⁶ Although China is on its way to becoming a

⁹⁰Tero Kuusi et.al. “Carbon Border Adjustment Mechanisms and Their Economic Impact on Finland and the EU.” (Helsinki: Prime Minister's Office, 2020) <https://researchportal.helsinki.fi/en/publications/carbon-border-adjustment-mechanisms-and-their-economic-impact-on-> (accessed 02/06/22)

⁹¹ Derek Parfit, “Equality or Priority?” The Lindley Lectures, Lawrence, KA: The University of Kansas, 1995.

⁹² Harry Frankfurt, “Equality as a Moral Ideal,” *Ethics* 98, (1987): 21–42.

⁹³ Paul Baer et.al. “Greenhouse Development Rights: towards an equitable framework for global climate policy”. *Cambridge Review of International Affairs*, 21(4), (2008): 649.

⁹⁴ Markkanen, et al. “On the Borderline: the EU CBAM and its place in the world of trade.”, 27.

⁹⁵ Zhong and Pei, “Beggars thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 6-8.

⁹⁶ Konrad Adenauer Stiftung. “Perception of the Planned EU Carbon Border Adjustment Mechanism in Asia Pacific — An Expert Survey”, (KAS: Hong Kong, 2021), 3.

high-income economy by 2023^{97;98}, this feeling remains, and was corroborated by two respondents who expressed that China was “weary, uneasy, and uncertain” when it came to CBAM.^{99;100} We saw that the EU registers competitiveness gains, while China suffers losses¹⁰¹. If CBAM does indeed become a form of protectionism (and perhaps leads to a retaliatory trade war), then this will cost the international system in terms of efficiency. Protectionism creates losses for consumers, which would deepen the current living-cost crisis.^{102;103} This in itself is not enough to discard CBAM as a policy option or counter their ethical justification in terms of harm-avoidance justice, only to underline that they need to be World Trade Organisation (WTO) compatible, driven by emissions reduction and not competitiveness concerns. This could come about with reform of, and renewed faith in, the multilateral trade system¹⁰⁴.

Now whether it is serious to place any of these socioeconomic consequences on the same scale as climate change related harms is also a difficult question. The WWF states the “negative climate change impacts are felt most strongly by the most vulnerable”.¹⁰⁵ Moreover, climate change related harms risk being catastrophic. Scientific studies find that in a Representative Concentration Pathway (RCP).4.5. intermediate scenario of 2 to 3°C of global warming by 2100 “climate change would adversely affect future air quality for >85% of China’s population (~55% of land area)”.¹⁰⁶ Smog caused 49 000 deaths in Beijing and Shanghai even as the pandemic reduced air pollution worldwide.¹⁰⁷ For Shanghai, the economic cost of this fallout was US\$19 billion.¹⁰⁸ If we look at RCP.8.5 (a worst-case scenario with 4.3° increases by 2100, often referred to as “business as usual”), these

⁹⁷Mathias Lund Larsen. “China Will No Longer Be a Developing Country After 2023. Its Climate Actions Should Reflect That.” *The Diplomat*. 2021.

⁹⁸ World Bank and the Development Research Center of the State Council, P. R. China. “China 2030: Building a Modern, Harmonious, and Creative Society”. (Washington, DC: World Bank, 2013). DOI: 10.1596/978-0-8213-9545-5.

⁹⁹ Interview 3. Commentator, Advisor, and Analyst on EU-China Affairs.

¹⁰⁰ Interview with Associate Professor of Law specialised in Mechanisms of Transnational Cooperation and Dispute Resolution (China-based).

¹⁰¹ Zhong and Pei, “Beggar thy neighbor? On the competitiveness and welfare impacts of the EU’s proposed carbon border adjustment mechanism”, 1.

¹⁰² Helm, et.al. “Trade, climate change, and the political game theory of border carbon adjustments”, 384-387.

¹⁰³ Ian Smith, “Cost of living crisis: What are European countries doing to avoid soaring energy bills?”, Euronews. 2022. <https://www.euronews.com/next/2022/02/03/cost-of-living-crisis-how-are-european-countries-responding-to-soaring-energy-bills> (accessed 09/06/2022)

¹⁰⁴ Fabrizio Botti, “Trade and Finance”, in *Renewing Multilateralism for the 21st Century: the Role of the United Nations and of the European Union*, (Brussels: Foundation for European Progressive Studies, 2020), 38. https://feps-europe.eu/wp-content/uploads/downloads/publications/policy-report_multilateralism-2020-09-15-pp.pdf (accessed 02/06/2022)

¹⁰⁵ WWF-European Policy Office, “Toolkit for Assessing Effective Territorial Just Transition Plans”, (Brussels: WWF, 2021), 4.

¹⁰⁶ Chaopeng Honga, et.al. “Impacts of climate change on future air quality and human health in China”, *PNAS* 116, 35(2019): 17194.

¹⁰⁷ David Stanway. ‘Smog causes an estimated 49,000 deaths in Beijing, Shanghai in 2020 – tracker’, Reuters, 2020, 9th July, <https://www.reuters.com/article/china-pollution-idUSL4N2EG1T5> (accessed 12/02/21).

¹⁰⁸ Greenpeace, “Tracking the Cost of Air Pollution: New technology estimates the health impact of air pollution in real time”, 2020. <https://www.greenpeace.org/international/campaign/tracking-cost-air-pollution/> (accessed 12/02/21).

consequences are far worse. Worryingly, Dr. Duffy, former Obama administration Senior Advisor on climate change, shows that in the short-term, the world has almost exactly followed the projections simulated by RCP.8.5. thus far.¹⁰⁹ Even in the face of uncertainty, the precautionary principle gives a legal precedent in international law to justify CBAM if they (even marginally) participate in avoiding catastrophic harms.¹¹⁰

In brief, a tentative harm-avoidance ethical justification of CBAM can be advanced premised on their projected success in leading to emission reductions. Key to this is measuring their policy effectiveness in avoiding harm. Because climate change causes catastrophic harms, CBAM's effectiveness is contingent on its ability to reduce emissions. This should be prioritised over competitiveness and carbon leakage issues when assessing CBAM. This stance is corroborated by Helm et.al. who authoritatively state that "the risks to humanity from catastrophic climate change have both a higher probability of occurring and greater impact should they occur than the risks to the trading regime from CBAM".¹¹¹ This also goes to show CBAM, focused on competitiveness and carbon leakage, is less likely to pass the threshold for a harm-avoidance based ethical justification. For one, avoiding carbon leakage does not always mean reducing overall emissions. Secondly, as pointed out by Horn and Sapir "one country's gain in competitiveness is another country's loss. A change in the pattern of competitiveness, therefore, does not create any gains per se from an international perspective".¹¹² A CBAM targeted at competitiveness concerns would likely increase harm by shifting economic benefits away from the rest of the world and towards the EU, including away from regions with high inequalities where the loss of these benefits creates significant harm, without necessarily significantly reducing overall emissions.^{113;114;115}

If CBAM is to be ethically justified through harm-avoidance justice, the question of their revenues also needs to be addressed. The implementation of CBAM will generate a significant amount of revenue for the EU. If this revenue were to be invested either in climate action or efforts to mitigate China's welfare losses this has the potential to provide further justification for them in harm-avoidance frameworks. However, in EU policy circles CBAM revenue is presented as a means to fund the domestic COVID-19 recovery¹¹⁶, or to boost territorial just transition plans in struggling Member States (MS). This is far from promising,

¹⁰⁹ Bob Berwyn, "The Worst-Case Scenario for Global Warming Tracks Closely With Actual Emissions", Inside Climate News, 2020. <https://insideclimatenews.org/news/03082020/climate-change-scenarios-emissions/> (accessed 12/02/21).

¹¹⁰ J. Cameron, J. Abouchar. "The Status of the Precautionary Principle in International Law". In: *The Precautionary Principle and International Law: The Challenge of Implementation* eds. D. Freestone, and E. Hey. (The Hague: Kluwer Law International, 1996), 50.

¹¹¹ Helm, et.al. "Trade, climate change, and the political game theory of border carbon adjustments", 383.

¹¹² Horn and Sapir. "Can Border Carbon Taxes Fit into the Global Trade Regime?", 3.

¹¹³ Li, "How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?", 928.

¹¹⁴ Markkanen, et al. "On the Borderline: the EU CBAM and its place in the world of trade.", 27.

¹¹⁵ Zhong and Pei, "Beggars thy neighbor? On the competitiveness and welfare impacts of the EU's proposed carbon border adjustment mechanism", 1.

¹¹⁶ European Commission. "The Commission proposes the next generation of EU own resources" (December, 2021). https://ec.europa.eu/commission/presscorner/detail/en/ip_21_7025 (accessed 21/05/2022)

as this needs to be done globally rather than domestically given CBAM will have its greatest impact on China, India, and Turkey's least well off.^{117, 118 119}

4. CBAM and Burden Sharing Justice

4.1 Relevant Principles and Legal Background

The better-known paradigm in climate justice is burden-sharing justice. According to Caney, it focuses on "how the burden of combating the problem should be shared fairly among the duty-bearers. An agent's responsibility, then, is to do her fair share."¹²⁰ Unlike Harm-Avoidance Justice, Burden-Sharing Justice can neatly be further divided into principles. The two main principles of burden-sharing justice are the PPP and the ATP.¹²¹ The PPP holds that those who are at the root of the problem of climate change should be the ones to pay to resolve it.¹²² The ATP dictates that those with a greater capacity to pay should contribute more.¹²³

These principles are not simply issued from climate ethics but are also enshrined in the international legal climate architecture. In article II.2. of the Paris Agreement the logic of the PPP and ATP are accommodated using Nationally Determined Contributions. These flow out of the principle of "common but differentiated responsibilities and respective capabilities, in the light of different national circumstances." Although vehemently debated, some consider CBDR a principle of customary international law. Minimally, it is a soft law principle. The PPP and ATP are not only ethical criteria but have been consecrated, in different forms, in international environmental law. As put by Ladly, the CBDR principle:

*"recognizes the unequal contribution to environmental degradation of developed countries as well as their enhanced ability to address the challenges presented by such degradation and, as a consequence, requires that they undertake more onerous obligations with respect to climate change mitigation"*¹²⁴.

Hence, CBDR simply formulates the ATP and the PPP together. Ladly corroborates this by emphasising the omnipresence of the issue of fairness in environmental law. To this end, they state: "the principle of CBDR, which is fundamentally an equitable principle, may be

¹¹⁷ Zhong and Pei, "Beggar thy neighbor? On the competitiveness and welfare impacts of the EU's proposed carbon border adjustment mechanism", 7-8.

¹¹⁸ Interview 1. Senior Climate Advisor to the EC.

¹¹⁹ Institute for European Environmental Policy. "What can Least Developed Countries and other climate vulnerable countries expect from the EU Carbon Border Adjustment Mechanism (CBAM)?" (Brussels: IEEP, 2021). [https://ieep.eu/uploads/articles/attachments/0f93d0de-8ac8-491f-9756-31fc93cba720/What%20can%20climate%20vulnerable%20countries%20expect%20from%20the%20EU%20CBAM%20-%20IEEP%20et%20al%20briefing%20\(002\).pdf?v=63791839851](https://ieep.eu/uploads/articles/attachments/0f93d0de-8ac8-491f-9756-31fc93cba720/What%20can%20climate%20vulnerable%20countries%20expect%20from%20the%20EU%20CBAM%20-%20IEEP%20et%20al%20briefing%20(002).pdf?v=63791839851) (accessed 05/06/2021)

¹²⁰ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

¹²¹ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

¹²² Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

¹²³ Caney. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". 125.

¹²⁴ Sarah Davidson Ladly, 2012. "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," *International Environmental Agreements: Politics, Law and Economics*, Springer12, 1(2012): 65.

understood as one expression of the considerations of equity underlying international environmental law".¹²⁵ Encyclopaedia Britannica provides a fuller picture of the link between CBDR and the ATP, and the PPP¹²⁶. They state CBDR emerged from "the need to establish variegated levels at which different states can effectively enter into a collective response, according to both their capacities [ATP] and their levels of contribution to the problem [PPP]". These two objectives had been recognised prior to the Paris Agreement, as early as the Stockholm Declaration of 1972.¹²⁷ CBDR emerged as a middle ground between developing and developed countries.¹²⁸

4.2 CBAM and the Polluter Pays Principle

The PPP was first adopted in 1972 by the OECD¹²⁹. 20 years later it became key to climate action with the 1992 Rio Declaration on Environment and Development which places emphasis on "the approach that the polluter should, in principle, bear the cost of pollution"¹³⁰. In a nutshell, it can be understood as "clean up your own mess".¹³¹ The principle has become increasingly accepted and has generally been considered as a moral guide to climate action since¹³². The PPP is commonly understood as an argument for historical responsibility.

The WWF lists "respect the polluter pays principle" as the 6th criterion for assessing the effectiveness of a Territorial Just Transition Plan. At a local level, the principle is fundamental as it seeks to protect the least vulnerable from actors that would cause environmental harm for gain with impunity. The goal is to not burden the wider community with costs that should be internalised by high emitters. It is interesting to judge how this can be applied to CBAM in an effort to judge the EU's respect for the potential for an international Just Transition.¹³³

Indeed, CBAM is meant to make carbon-intensive industries pay. The Commission proposal suggests making importers pay a carbon price in the form of CBAM certificates. This is intuitively in line with the PPP, as it disincentivises importing high-carbon products and, in doing so, reduces the market shares of highly polluting producers and exporters. If applied

¹²⁵ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 65.

¹²⁶ Charlotte Epstein, "Common but differentiated responsibilities", in Encyclopaedia Britannica 2015. <https://www.britannica.com/topic/common-but-differentiated-responsibilities> (accessed 03/05/21).

¹²⁷ Epstein, "Common but differentiated responsibilities", in Encyclopaedia Britannica 2015. <https://www.britannica.com/topic/common-but-differentiated-responsibilities> (accessed 03/05/21).

¹²⁸ Epstein, "Common but differentiated responsibilities", in Encyclopaedia Britannica 2015. <https://www.britannica.com/topic/common-but-differentiated-responsibilities> (accessed 03/05/21).

¹²⁹ OECD, Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies, OECD/LEGAL/0102

¹³⁰ United Nations Conference on Environment and Development. 1992. Agenda 21, Rio Declaration, Forest Principles. (New York: United Nations).

¹³¹ Henry Shue, "Global Environment and international equality", *International Affairs* 75, (1999): 533.

¹³² Interview 1. Senior Climate Advisor to the EC.

¹³³ College of Europe in Natolin, "A Green Deal for the Globe: European Union external action and the international Just Transition", 22nd of June 2021. <https://www2.coleurope.eu/fr/events/online-conference-green-deal-globe-european-union-external-action-and-international-just>. (accessed 02/05/22).

equally to everyone, the only factor would be that the polluter pays, at least in international trade. As mentioned previously, China is the actor that is responsible for the largest increases in emissions. On a domestic, or finer-grain level, those economic actors with high levels of emissions would end up bearing the cost. This is close to the spirit of the PPP.

Two points emerge against such justification of CBAM through the PPP. For one, different levels of analysis provide different answers. On an international level, the implementation of CBAM would cancel out the historical dimension implications of the PPP. The former EU-28 are historically responsible for 22% of global cumulative emissions (33% for Europe)¹³⁴. This is no slim share, and with the PPP, the EU would have a lot to pay in climate action efforts to account for this historical responsibility. With CBAM, China, which is responsible for 12.7% of total global cumulative emissions, would pay more despite cumulatively lower emissions than the EU. The EU would stand to gain from CBAM despite cumulatively higher emissions. As such, this transgresses the PPP. A narrative that fails to account for historical responsibility would be problematic. The colonial world order was largely structured in ways that made gain possible for the developed world, often at the expense of the developing world.¹³⁵ Even if China will not be considered a developing country for much longer, historical responsibility has a strong bearing on the application of the PPP given emissions are a transboundary but also transtemporal and cumulative phenomenon. CBAM would apply to polluting producers and companies but completely obfuscate the phenomenal benefit incurred by past polluting actors, and hence their tactical advantage on the market. Moreover, the application of CBAM would be a burden on the Chinese economy (a heavier or lighter burden depending on the scope or achieved exemptions), and existing socioeconomic distributional issues would signify that the community would *in fine* end up paying too. Unlike in Territorial Just Transition plans, it cannot be said that a PPP-driven CBAM would necessarily protect the community from bearing the cost.

The second point is that if different modes of accounting are adopted, it becomes clear that the high global emission rates are still largely imputable to the consumption of the developed world¹³⁶. More specifically to the current case study, China is the largest exporter of embodied emissions, while the EU is the largest importer¹³⁷. While the EU's per capita emissions are decreasing under the production-based accounting model, the EU is still a net importer of emissions.¹³⁸ With CBAM it is projected for the emissions of OECD countries historically responsible for climate change to increase while those in China and the developing world decrease.¹³⁹ More specifically, the EU's emissions would increase by

¹³⁴ Hannah Ritchie, "Who has contributed most to global CO2 emissions?", in *Our World in Data* by Global Data Lab, (Oxford: University of Oxford, Oxford Martin School, 2019). <https://ourworldindata.org/contributed-most-global-co2> (accessed 07/02/21)

¹³⁵ Gernot Köhler and Arno Tausch. *Global Keynesianism: Unequal exchange and global exploitation*. (Huntington NY, Nova Science, 2002).

¹³⁶ Daniel Moran et.al. "The Carbon Loophole in Climate Policy: Quantifying the Embodied Carbon in Traded Products, report". (San Francisco: Climate Works Foundation. 2018), 6. <https://www.climateworks.org/wp-content/uploads/2018/09/Carbon-Loophole-in-Climate-Policy-Final.pdf> (accessed 09/06/2022).

¹³⁷ Moran et.al. "The Carbon Loophole in Climate Policy: Quantifying the Embodied Carbon in Traded Products, report", 10.

¹³⁸ Moran et.al. "The Carbon Loophole in Climate Policy: Quantifying the Embodied Carbon in Traded Products, report", 17.

¹³⁹ Li, "How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?", 931-933.

an estimated 2.1 Million tonnes of carbon dioxide, while those in the rest of the world would decrease by 12Mt¹⁴⁰. This already transgresses the idea that the developing world should have an equal if not greater entitlement to the remaining emissions.¹⁴¹

This leads us to reconsider the intuitive justification of CBAM by the PPP and place the reflection of CBAM justification back into the legal context of the PPP. As demonstrated in the previous section CBDR provides a recognised legal avenue for the PPP to have a bearing in international environmental law. Therefore, I can now turn to the legal discipline to assess whether CBAM fulfils the obligations of the PPP on a less superficial level. As I have outlined in my previous section, WTO-compatibility is fundamental in ensuring CBAM can be justified from a harm-avoidance perspective, which remains the most important argument in their favour. Without WTO-compatibility, CBAM risk being reduced to a backwards protectionist measure that undermines carbon emission mitigation and welfare through increased international and domestic trade inefficiencies. Yet, Sarah Davidson Ladly, suggests that a WTO-compatible formulation of CBAM likely transgresses the principle of common but differentiated responsibility.¹⁴² If a WTO-compatible CBAM design transgresses CBDR, which by and large embodies the PPP in MEA, this means they are much less likely to secure ethical justification in terms of the PPP.¹⁴³ Ladly's legal reasoning deserves closer inspection. The overarching Most-Favoured Nation clause of article I:1 of the GATT dictates that:

*"any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties."*¹⁴⁴

A simple understanding of this is that discrimination on like products is legally prohibited to parties in the WTO, all parties must be treated equally. Unfortunately, as pointed out by Ladly et.al., the MFN in WTO law requires that:

*"a CBAM would still be applied in a consistent manner to all imports meeting the relevant criteria (e.g., comparable domestic emission reduction programs), without regard to their country of origin."*¹⁴⁵

This would prevent the application of CBDR, given that countries with less historical responsibility would by and large need to be treated in the same way as more historically responsible countries. A WTO-compatible CBAM would then violate any PPP-motivated implications present in the CBDR. The consensus in the literature is then that a WTO-compatible CBAM design would need to be based on the general exceptions of the

¹⁴⁰ Markkanen, et al. "On the Borderline: the EU CBAM and its place in the world of trade.", 27.

¹⁴¹ David Miller. Global Justice and climate change: how should responsibilities Be Distributed? The Tanner Lectures on Human Values. (China: Beijing Tsinghua University, March 24-25th. 2008), 125.

¹⁴² Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 63.

¹⁴³ Institute for European Environmental Policy. "What can Least Developed Countries and other climate vulnerable countries expect from the EU Carbon Border Adjustment Mechanism (CBAM)?", 1.

¹⁴⁴ General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194.

¹⁴⁵ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 75.

GATT.¹⁴⁶ XX(b) or XX(g) could be called on to justify unilateral CBAM in the WTO.¹⁴⁷ Even if these two clauses provide policy space for CBDR-compliant CBAM the chapeau analysis of XX reveals this would come at administratively prohibitive costs whereby a country implementing CBAM with another would have to provide a full review of their lack of equivalent domestic climate policies to justify the implementation of CBAM.¹⁴⁸

Moreover, this solution would not resolve the underlying tension between the conflicting normative frameworks of international environmental law and international trade law, with one being driven by considerations of equity, and the other by considerations of efficiency.¹⁴⁹ For China, which diplomatically advances its right to develop further through historical arguments, the clash that arises between the MFN and CBDR on CBAM precludes their legal and ethical justification according to the PPP. However, it appears seminal that these two seemingly diverging priorities of trade and climate law be integrated within the same framework. A political coalition building support for CBAM might be tempted to argue, in line with many environmental economists and international environmental lawyers, that the WTO must be reformed to better account for the need to protect environmental goods. There is a clear valuation problem when it comes to environmental goods. Here, Dietrich Helm et.al provide a plausible economic analysis which states that free trade can only be perceived to be beneficial in the face of negative externalities if inputs are appropriately priced.¹⁵⁰ The problem of environmental valuation shows that inputs (negative externalities) are not being appropriately priced.¹⁵¹ This lends some stock to the discourse that the WTO should be reformed. Helm et.al show that it is not against the spirit of neoliberal economic theory to seek to better price environmental goods, and that this seeks to rectify pre-existing distortions of environmental valuation present in the international trade system rather than further skew the system in an inefficient protectionist fashion.¹⁵² Making sure that efficient trade also means carbon-efficient trade would be a first step in the direction of integrating considerations of equity and efficiency. In a neoliberal order with appropriately priced negative externalities (viz. a carbon price), international inefficiency would have a carbon cost in itself, and this would enable economic measures to solve climate-related problems of equity through free trade rather than against free trade¹⁵³.

In this part, I have shown that at first sight, CBAM satisfies an ethical justification, according to the PPP. They target polluting industries and companies. However, if we turn to other levels of analysis, notably the international level with the nation-state as its unit, and considerations of historical responsibility it is less clear that CBAM fully complies with the

¹⁴⁶ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 75.

¹⁴⁷ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 75.

¹⁴⁸ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 77.

¹⁴⁹ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 79-81.

¹⁵⁰ Helm, et.al. "Trade, climate change, and the political game theory of border carbon adjustments", 368.

¹⁵¹ Helm, et.al. "Trade, climate change, and the political game theory of border carbon adjustments", 368.

¹⁵² Helm, et.al. "Trade, climate change, and the political game theory of border carbon adjustments", 368.

¹⁵³ Helm, et.al. "Trade, climate change, and the political game theory of border carbon adjustments", 368.

PPP. Ethical justification can still be found on the international level if the policy cost of CBAM remains limited to highly polluting economic actors (transnational corporations) and is not made to be felt in terms of the well-being of the worst-off in the general population. This imperative emerges from the Just Transition rationale. In this part, I explored the conflicting obligations of international environmental law and international trade law. After reviewing the necessity for WTO-compatible CBAM to also comply with the customary or soft law of CBDR, I find that designing such CBAM would prove extremely difficult both from an administrative and legal standpoint. It emerges that WTO-compatible CBAM would likely fail to satisfy the implications of historical responsibility that underpin the PPP as countries would pay from CBAM disproportionately to their historical responsibility. What is worse: those most responsible for climate change could stand to benefit from a CBAM policy. At the international level and based on the global architecture of the multilateral trade regime, as well as that of the multilateral environmental regime, it appears CBAM cannot hope for a clear-cut ethical justification through the PPP.

4.3 CBAM and the Ability to Pay Principle

The ATP highlights that countries with the ability to contribute to climate change efforts should do so. The best and most intuitive moral reasoning behind the ATP can be found in Simon Caney's work. He states that "if someone sitting next to you at a table suddenly becomes seriously ill and you're well placed to help, then we tend to think that you should do so."¹⁵⁴

In the case of China, an additional difficulty emerges because of its contentious status as a developing nation.¹⁵⁵ As stated previously China is on track to be considered a high-income economy in 2023, however deep socioeconomic inequalities mar this success with an extremely poor rural in-land periphery and a wealthy urban centre on the coastline.^{156 157}

Recognising these inequalities, their ATP can be considered low, and therefore their responsibility reduced. This would make CBAM hard to justify according to the ATP. However, if China is considered the economic powerhouse of the world with its GDP of \$12.238 trillion and its 6.1% GDP growth in 2019¹⁵⁸, China would not be exempt from paying through for climate action through CBAM, provided other economies also pay according to their level of capability.¹⁵⁹ In substance, previous sections make it evident that this would not be the case. From a purely GDP per capita perspective, CBAM transgresses

¹⁵⁴ Simon Caney. Climate change and the duties of the advantaged. *Critical Review of International Social and Political Philosophy* 13, no.1 (2010): 216-217.

¹⁵⁵ Ertl, Veronika, and Merkle, David. "China: A Developing Country as a Global Power?", (Hong Kong: Konrad Adenauer Stiftung, 2021), 1-2.

¹⁵⁶ World Bank and the Development Research Center of the State Council, P. R. China. "China 2030: Building a Modern, Harmonious, and Creative Society".

¹⁵⁷ Lund Larsen,. "China Will No Longer Be a Developing Country After 2023. Its Climate Actions Should Reflect That." *The Diplomat*. 2021.

¹⁵⁸ World Bank, "GDP Growth (annual%) China", and "Current GDP China". 2021. <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=CN> (accessed 02/05/21)

¹⁵⁹ Paris agreement: Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

the ATP principle. However, a GDP account of the ATP fails to discriminate between economic wealth and correlated well-being.

As argued in Le Merle 2021, the most cogent version of the ATP would be measured in terms of capability.¹⁶⁰ Sharing costs proportionally according to income or GDP fails to account for the differing impacts of a 1% cut to GDP in a less developed country and a first-world country.¹⁶¹ In a least developed economy, such a cut would create unacceptable levels of hardship, whereas depending on domestic configurations, a 1% cut could have few repercussions in other countries (even median economies).¹⁶² As such, to obtain a prioritarian ethical justification, the ATP should not be a question of aggregate GDP or proportions of GDP, rather it should be measured in terms of the impact of climate action measures and policies on the well-being of populations, with extra weight given to the least well-off. This is how a country's capability should be understood, which is why domestic socioeconomic inequalities in China matter in understanding ethical justification according to the ATP.

This gives CBAM a larger chance of passing the threshold of ethical justification through the ATP. Few would deny China has climate action capabilities. In that respect, it would not be immoral for China to pay according to those capabilities. Its current claim to a developing nation status cannot become a license to continue to pollute a bit longer.¹⁶³ Especially because China now has little other reason to maintain this status beyond preserving the political weight and international advantages that come with it.¹⁶⁴

That being said, even if CBAM result in China paying an amount commensurate with its capabilities, it does not seem they would make the EU or OECD countries pay an amount commensurate with their capabilities. This double standard appears sufficient to discard a justification through the ATP. The only saving grace would stem from the EU pledging any additional revenue from CBAM to palliate the negative socioeconomic externalities in China that come from their implementation, or using these revenues to promote initiatives that promote climate action, such as technology transfers for instance. As stated previously, it is unlikely this will happen. Furthermore, the revenue raised by CBAM is not limited to levied taxes, but is also enmeshed in complex issues surrounding competitiveness.

When it boils down to legal considerations, my previous part has demonstrated there is a prima facie conflict between the WTO and CBDR compliance of CBAM. This is driven home by the chapeau analysis of Article XX in the GATT 1949¹⁶⁵. Therefore, the WTO-compatible CBAM designed by the EC cannot find ethical justification according to the ATP either, as I have shown the ATP is implicitly embodied in CBDR. All in all, CBAM does not sit well with the ATP.

¹⁶⁰ Kevin Le Merle, "From Burden-Sharing Justice to Harm-Avoidance Justice: A Normative Evaluation of the Ability to Pay Principle and the Polluter Pays Principle", *Duodecim Astra* 1, (2021): pp. 164 – 178.

¹⁶¹ Shue, "Global Environment and international equality", 537.

¹⁶² Shue, "Global Environment and international equality", 538.

¹⁶³ Interview 1. Senior Climate Advisor to the EC.

¹⁶⁴ Ertl and Merkle. "China: A Developing Country as a Global Power?", (Hong Kong: Konrad Adenauer Stiftung, 2021), 2.

¹⁶⁵ Ladly, "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities," 77.

5. Conclusion

This paper has predominantly concerned itself with unveiling the ethical quandaries at the heart of the implementation of CBAM between the EU and China. In doing so, it has also presented a roadmap for the application of ethical principles to policy design and implementation that can serve as a methodological basis for future research. I have found that CBAM only secures a weak justification according to Harm-Avoidance Justice: their associated emissions reductions are projected to be only marginal, yet their immediate welfare cost is noticeable. In Burden-Sharing Justice frameworks, CBAM also stands on murky grounds. In the short run, the PPP would make highly polluting Chinese companies pay through their loss of market shares, but this would be limited to companies who export their products to the EU. Meanwhile, on an international level, it emerges the Chinese community would indirectly be asked to bear the costs for pollution that mostly continues to benefit consumers in the EU. On the ATP side, China does have the capability to pay for climate action, and CBAM would make them pay. However, CBAM would make China pay disproportionately more than the EU, which stands to generate revenue and record welfare gains through CBAM. This transgresses the ATP principle. In conclusion, ironically, CBAM is motivated by domestic Just Transition considerations: making sure to safeguard economic actors that will be worst hit by the transition by levelling the playing field of international trade. Yet, at an international level, the foreign policy dimension of the EGD, notably CBAM, does not respect the values and principles of Just Transition. The externalisation of discursively constructed values and principles needs to be integrated into a self-reflexive understanding of the EU's instrumental use of ethics. In the case of this paper, the ethical principles called upon are enshrined in international agreements that also account for the interests of developing countries. Despite its ambivalent status at the juncture, the case of China stands out as a priority given its increasing share of emissions and the effects of CBAM on its economy. The diplomatically fraught nature of CBAM also has a bearing on their ethical justification. If CBAM harms climate efforts overall, finding ethical justification for them will be impossible.

It emerges that CBAM will only marginally reduce emissions and might act as a smoke screen for more significant action on the EU's part. This means CBAM only have limited justification in harm-avoidance frameworks. On the burden-sharing front, it appears CBAM is ethically unacceptable. If the WTO is not reformed, WTO-compatible CBAM prima-facie transgresses CBDR. CBDR is both the legal expression of the PPP, and the ATP. Therefore, CBAM fails to pass the threshold of ethical justification of a burden-sharing approach. Many might contest the very premise of this paper and argue that politics are pragmatic and that ethics will not have such a strong bearing on the issue of CBAM. However, an ethical justification is instrumentally important diplomatically, legally, and politically. This imperative need for ethical justification was maybe best explained in an interview with one of the EU's lead negotiators who said:

"We need to push the boundaries of what policy can achieve. But in order for a policy to be accepted by the actors to whom that policy will apply, they have to perceive it as being fair".¹⁶⁶

Without a case to prove CBAM are not protectionist and self-serving, the EU will face actions through the WTO. Without CBDR compliance, the EU will face diplomatic fire for failing in

¹⁶⁶ Interview 1. Senior Climate Advisor to the EC.

its commitments to the Paris Agreement. These are not only legal questions, but ethical questions concerned with populations' well-being. Politically, public opinion, both domestic and foreign, will not stand firm behind the EU in the face of policies that transgress widely accepted ethical criteria like the PPP and ATP.

References

- Afionis, Stavros, Marco Sakai, Kate Scott, John Barrett, and Andy Gouldson. "Consumption-based carbon accounting: does it have a future?". *WIREs Clim Change* 8, no. 1 (2017): 1-19.
- Aggestam, Lisbeth. "Ethical Power Europe". *International Affairs* 84, no. 1 (2008): 1-11.
- Bao, Qin, Ling Tang, Zhong Xiang Zhang, and Shouyang Wang. "Impacts of border carbon adjustments on China's sectoral emissions". *China Economic Review* 24 (2013): 77-94.
- Baer, Paul, Glenn Fieldman, Tom Athanasiou, Sivan Kartha. "Greenhouse Development Rights: towards an equitable framework for global climate policy". *Cambridge Review of International Affairs* 21, no. 4 (2008): 649-669, doi:10.1080/09557570802453050.
- Baylis, Kathy, Don Fullerton, and Daniel H. Karney. "Negative Leakage". *Journal of the Association of Environmental and Resource Economists* 1, no. 1 (2014): 51-73.
- Bellora, Cecilia, and Lionel Fontagné, "Possible carbon adjustment policies: An overview". *International Trade Committee, European Parliament*. Accessed May 2, 2022. [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/603500/EXPO_BRI\(2020\)603500_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/603500/EXPO_BRI(2020)603500_EN.pdf).
- Blake, Michael and Patrick Taylor Smith. "International Distributive Justice". *The Stanford Encyclopedia of Philosophy*, Summer 2022. <https://plato.stanford.edu/archives/sum2022/entries/international-justice>.
- British Petroleum. "Statistical Review of World Energy: China's energy market in 2020". Accessed June 2, 2022. <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-china-insights.pdf>.
- Botti, Fabrizio. "Trade and Finance", in *Renewing Multilateralism for the 21st Century: The Role of the United Nations and of the European Union*. Brussels: Foundation for European Progressive Studies, 2020. Accessed June 2, 2021. https://feps-europe.eu/wp-content/uploads/downloads/publications/policy-report_multilateralism-2020-09-15-pp.pdf.
- Butler, Nick. "A 'climate-neutral continent' beyond the EU - A conversation with Ukraine, Turkey and Russia". *Centre for European Policy Studies*, Lecture, 2021.
- Cameron, James and Juli Abouchar. "The Status of the Precautionary Principle in International Law". In *The Precautionary Principle and International Law: The Challenge of Implementation*, edited by David Freestone and Ellen Hey. The Hague: Kluwer Law International, 1996.
- Caney, S. "Climate change and the duties of the advantaged". *Critical Review of International Social and Political Philosophy* 13, no. 1 (2010): 203-228.
- Caney, S. "Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens". *Special Issue: Philosophy, Politics & Society* 22, no. 2 (2014): 125-149.
- Carbon Pulse. "China lashes out at EU carbon border adjustment initiative ahead of climate talks". November 27, 2019. <https://carbon-pulse.com/87558/>.

College of Europe in Natolin. "A Green Deal for the Globe: European Union external action and the international Just Transition" conference. June 21, 2021. Accessed May 5, 2022. <https://www2.coleurope.eu/fr/events/online-conference-green-deal-globe-european-union-external-action-and-international-just>.

Cosbey, Aaron. "Border Carbon Adjustment", *June 18-20, Copenhagen, Denmark, Seminar Publication*. Winnipeg: International Institute for Sustainable Development Trade and Climate Change, 2008.

Crippa, Monica, Diego Guizzardi, Efsio Solazzo, Marilena Muntean, Edwin Schaaf, Fabio Monforti-Ferrario, Manjola Banja, Jos Olivier, Giacomo Grassi, Simone Rossi, Elisabetta Vignati. *GHG emissions of all world countries*. Publications Office of the European Union: Luxembourg, 2021. doi:10.2760/173513.

Epstein, Charlotte. "Common but differentiated responsibilities", *Encyclopaedia Britannica* 2015. Accessed May 3, 2021. <https://www.britannica.com/topic/common-but-differentiated-responsibilities>

Ertl, Veronika, and David Merkle. "China: A Developing Country as a Global Power?", *Konrad Adenauer Stiftung*. November 15, 2019. <https://www.kas.de/en/web/auslandsinformationen/artikel/detail/-/content/china-a-developing-country-as-a-global-power>.

European Commission. "Communication: The European Green Deal". Accessed February 2, 2021. https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf.

European Commission. "European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions". (2021, July). Accessed May 20, 2022. https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541.

European Commission. "European Climate Law" (2021, July). Accessed May 20, 2022. https://ec.europa.eu/clima/eu-action/european-greendeal/european-climate-law_en.

European Commission. "Proposal for a Regulation Establishing the Just Transition Fund", 2020. Accessed April 22, 2021. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0022>.

European Commission. Proposal for a regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism. COM/2021/564 final. (2021, July). Accessed May 20, 2022. <https://eur-lex.europa.eu/legalcontent/en/TXT/?uri=CELEX:52021PC0564>.

European Commission. "Summary Report: Public consultation on the Carbon Border Adjustment Mechanism (CBAM)". Brussels, 2021. Accessed April 23, 2021. <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12228-Carbon-Border-Adjustment-Mechanism/public-consultation>.

European Commission. "The Commission proposes the next generation of EU own resources" (December, 2021). Accessed May 21, 2022. https://ec.europa.eu/commission/presscorner/detail/en/ip_21_7025.

Eurostat. "China-EU - international trade in goods statistics". Accessed January 6, 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=ChinaEU_-_international_trade_in_goods_statistics#EU-China_trade_by_type_of_goods.

Frankfurt, Harry. "Equality as a Moral Ideal." *Ethics* 98, no. 1 (1987): 21-43. <http://www.jstor.org/stable/2381290>.

General Agreement on Tariffs and Trade, October 30, 1947, 55 UNTS 194.

Greenpeace. "Tracking the Cost of Air Pollution: New technology estimates the health impact of air pollution in real time". Accessed February 12, 2021. <https://www.greenpeace.org/international/campaign/tracking-cost-air-pollution/>.

Gore, Tim, Eline Blot, Tancrede Voituriez, Laura Kelly, Aaron Cosbey, Jodie Keane. "What can Least Developed Countries and other climate vulnerable countries expect from the EU Carbon Border Adjustment Mechanism (CBAM)?" *Institute for European Environmental Policy*. Accessed June 5, 2021. https://ieep.eu/publications/what-can-climate-vulnerable-countries-expect-from-the-cbam?utm_campaign=coschedule&utm_source=twitter&utm_medium=IEEP_eu

Helm, Dieter, Cameron Hepburn, and Giovanni Ruta. "Trade, climate change, and the political game theory of border carbon adjustments". *Oxford Review of Economic Policy* 28, no. 2 (2012): 368-394.

Hong, Chaopeng, Qiang Zhang, Yang Zhang, Steven J. Davis, Dan Tong, Yixuan Zheng, Zhu Liu, Dabo Guan, Kebin He, Hans Joachim Schellnhuber. "Impacts of climate change on future air quality and human health in China", *PNAS* 116, no. 35 (2019): 17193-17200.

Horn, Henrik, and André Sapir. "Can Border Carbon Taxes Fit into the Global Trade Regime?". *Bruegel Policy Brief* 6 (2013).

International Energy Agency. "IEA Atlas of Energy: CO2 Emissions from Fuel Combustion". Accessed June 5, 2021. <http://energyatlas.iea.org/#!/tellmap/1378539487>.

International Institute for Sustainable Development. "Trading Begins under China's National ETS." Accessed June 5, 2021. <https://sdg.iisd.org/news/trading-begins-under-chinas-national-ets/>.

Islam, Shada. European Business Summit 2020. Accessed April 13, 2021. <https://ebsummit.eu/>

Kardish, Christopher, Lina Li, Mary Hellmich, Maosheng Duan and Yujie Tao. "The EU carbon border adjustment mechanism (CBAM) and China: Unpacking options on policy design, potential responses, and possible impacts". Accessed June 2, 2022. https://www.adelphi.de/en/system/files/mediathek/bilder/20210610%20PolicyPaperCBAM%20China_Final.pdf.

Kohler, Gernot and Arno Tausch. *Global Keynesianism: Unequal Exchange and Global Exploitation*. Huntington, N.Y.: Nova Science Publishers, 2002.

Konrad Adenauer Stiftung. "Perception of the Planned EU Carbon Border Adjustment Mechanism in Asia Pacific – An Expert Survey". Accessed June 24, 2022. <https://www.kas.de/documents/265079/265128/EU+Carbon+Border+Adjustment+Mechanism.pdf/fed1d5a4-4424-c450-a1b9-b7dbd3616179?version=1.1&t=1615356593906>.

Knight, Carl. "The Method of Reflective Equilibrium: Wide, Radical, Fallible, Plausible." *Philosophical Papers* 35, no. 2 (2006): 205-229.

Kuusi, Tero, Martin Björklund, Ville Kaitila, Kai Kokko, Markku Lehmus, Michael Mehling, Tuuli Oikarinen, Johanna Pohjola, Sampo Soimakallio, and Maria Wang. "Carbon Border Adjustment Mechanisms and Their Economic Impact on Finland and the EU." Prime Minister's Office. Helsinki. (2020) <https://researchportal.helsinki.fi/en/publications/carbon-border-adjustment-mechanisms-and-their-economic-impact-on->.

Ladly, Sarah Davidson. "Border carbon adjustments, WTO-law and the principle of common but differentiated responsibilities." *International Environmental Agreements: Politics, Law and Economics*, Springer 12, no. 1 (2012): 63-84.

Le Merle, Kevin, "From Burden-Sharing Justice to Harm-Avoidance Justice: A Normative Evaluation of the Ability to Pay Principle and the Polluter Pays Principle", *Duodecim Astra*, 1, (2021): pp. 164-178.

Li, Aijun, Aizhen Zhang, Hongbo Cai, Xingfeng Li, and Shishen Peng. "How large are the impacts of carbon-motivated border tax adjustments on China and how to mitigate them?". *Energy Policy* 63 (2013): 927-934.

Liu, Lee. "A critical examination of the consumption-based accounting approach: has the blaming of consumers gone too far?". *WIREs Climate Change* 6, no. 1 (2015): 1-8.

Lund Larsen, Mathias. "China Will No Longer Be a Developing Country After 2023. Its Climate Actions Should Reflect That." *The Diplomat*. July 3, 2021. <https://thediplomat.com/2021/07/china-will-no-longer-be-a-developing-country-after-2023-its-climate-actions-should-reflect-that/>.

Macrotrends. "China Trade to GDP Ratio 1960-2022." Accessed June 5, 2021. <https://www.macrotrends.net/countries/CHN/china/trade-gdp-ratio#:~:text=China%20trade%20to%20gdp%20ratio%20for%202020%20was%2034.51%25%2C%20a%200.74%25%20increase%20from%202016.>

Markkanen, Sanna, Jorge Viñuales, Hector Pollitt, Hosuk Lee-Makiyama, Bence Kiss-Dobronyi, Arushi Vaishnav, Kevin Le Merle and Lauren Gomez Cullen. *On the Borderline: the EU CBAM and its place in the world of trade*. Cambridge, UK: Cambridge Institute for Sustainability Leadership, University of Cambridge, 2021.

Marcu, Andrei, Michael Mehling, Aaron Cosby. "Border Carbon Adjustments in the EU: Sectoral Deep Dive". *European Roundtable on Climate Change and Sustainable Transition*. Accessed June 4, 2022. https://ercst.org/wp-content/uploads/2021/03/20210317-CBAM-II_Report-I-Sectors.pdf.

Miller, David. "Global Justice and climate change: how should responsibilities Be Distributed?" *The Tanner Lectures on Human Values*. China: Beijing Tsinghua University, March 24-25th, 2008. https://tannerlectures.utah.edu/_resources/documents/a-to-z/m/Miller_08.pdf

Moran, Daniel, Ali Hasanbeigi, and Cecilia Springer. "The Carbon Loophole in Climate Policy: Quantifying the Embodied Carbon in Traded Products". *Climate Works Foundation*. August 2018. Accessed June 9, 2022. <https://www.climateworks.org/wp-content/uploads/2018/09/Carbon-Loophole-in-Climate-Policy-Final.pdf>

OECD, Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies, OECD/LEGAL/0102

Parfit, Derek. *Equality or Priority?* Lawrence, KA: The University of Kansas, 1995.

Ritchie, Hannah, Max Roser and Pablo Rosado. "China: CO2 Country Profile." *Our World in Data*. Accessed May 7, 2022. <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>.

Shue, H. "Global Environment and international equality." *International Affairs* 75 (1999): 531-545.

Smith, Ian. "Cost of living crisis: What are European countries doing to avoid soaring energy bills?" *Euronews*, February 3, 2022. <https://www.euronews.com/next/2022/02/03/cost-of-living-crisis-how-are-european-countries-responding-to-soaring-energy-bills>.

Stanway, David. "Smog causes an estimated 49,000 deaths in Beijing, Shanghai in 2020 - tracker." *Reuters*, July 9, 2020. <https://www.reuters.com/article/china-pollution-idUSL4N2EG1T5>.

Steinwehr, Uta. "Fact check: Is China the main climate change culprit?", *DW*, June 30, 2021. <https://www.dw.com/en/fact-check-is-china-the-main-climate-change-culprit/a-57777113>.

Textor, C. "Distribution of the gross domestic product (GDP) across economic sectors in China from 2010 to 2020", *Statista*, Feb 28, 2022. <https://www.statista.com/statistics/270325/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-china/>.

United Nations Conference on Environment and Development. Agenda 21, Rio Declaration, Forest Principles. New York: United Nations, 1992.

United Nations Framework Convention on Climate Change (UNFCCC) The Paris Agreement. UNFCCC, New York, Dec. 12, 2015, T.I.A.S. No. 16-1104.

World Bank. "Exports of Goods and Services (Current US\$)." [Accessed October 16, 2020. https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?most_recent_value_desc=true](https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?most_recent_value_desc=true).

World Bank and Development Research Center of the State Council, the People's Republic of China. *China 2030: Building a Modern, Harmonious, and Creative Society*. Washington, DC: World Bank, 2013. doi: 10.1596/978-0-8213-9545-5.

World Integrated Trade Solution. "Cement clinkers (whether or not coloured) imports from China in 2019." Accessed June 5, 2021. <https://wits.worldbank.org/trade/comtrade/en/country/All/year/2019/tradeflow/Imports/partner/CHN/product/252310>.

World Integrated Trade Solution. "Fertilizers, mineral or chemical; potassic, potassium chloride imports from China in 2019." Accessed June 5, 2021. <https://wits.worldbank.org/trade/comtrade/en/country/All/year/2019/tradeflow/Imports/partner/CHN/product/310420>.

World Wildlife Fund (WWF). *Toolkit for Assessing Effective Territorial Just Transition Plans*. Brussels: WWF, 2021.

Zachmann, Georg. and Ben McWilliams. "A European carbon border tax: much pain, little gain." *Bruegel Policy Contribution* 5 (2020).

Zhong, Jiarui, Jiansuo Pei. "Beggar thy neighbor? On the competitiveness and welfare impacts of the EU's proposed carbon border adjustment mechanism." *Energy Policy* 162 (2022): 2-18. <https://doi.org/10.1016/j.enpol.2022.112802>.



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